



PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

WIPO PCT

Applicant's or agent's file reference 3.76076/001	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 03/00364	International filing date (day/month/year) 29.01.2003	Priority date (day/month/year) 29.01.2002
International Patent Classification (IPC) or both national classification and IPC A61K31/557		
Applicant LEIV EIRIKSSON NYFOTEK AS		
<p>1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 1 sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand  28.08.2003	Date of completion of this report  03.05.2004	
Name and mailing address of the international preliminary examining authority:  European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer  Siatou, E  Telephone No. +49 30 25901-327 	

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/00364

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-14 as originally filed

**Claims, Numbers**

1-8, 14-16 as originally filed

9-13 filed with telefax on 02.02.2004

**Drawings, Sheets**

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 14 in respect of industrial applicability

because:

☒ the said international application, or the said claims Nos. 14 in respect of industrial applicability relate to the following subject matter which does not require an international preliminary examination (specify):

**see separate sheet**

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	1-16
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-13, 15-16
	No: Claims	

2. Citations and explanations

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**see separate sheet**

**Re Item I**

**Basis of the report**

Amended claims 9-13 can be regarded as meeting the requirements of Art. 34(2)(b) PCT.

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claim 14 relates to subject-matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of these claims (Article 34(4)(a)(i) PCT).

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**Cited references**

Reference is made to the following documents:

D1: WO 00 02561 A

D2: DATABASE WPI Section Ch, Week 199751 Derwent Publications Ltd., London, GB; Class B05, AN 1997-554679 & JP 09 268153 A (SAGAMI CHEM RES CENTRE), 14 October 1997 (1997-10-14)

D3: JOURNAL OF THE CHEMICAL SOCIETY, PERKIN TRANSACTIONS 1, 2000, pages 2271-2276 (& A. K. HOLMEIDE ET AL)

D4: THE JOURNAL OF IMMUNOLOGY, vol. 161, 1998, pages 3421-3430 (& L. THOMMESEN ET AL)

**Novelty**

The subject matter of claims 1-14 is considered to be novel over the cited prior art, since no cited document discloses the use of the compounds of formula (I) of claim 1, for the treatment of psoriasis.

Document **D1**, which is considered to represent the most relevant state of the art, discloses (cf. page 17, lines 12-19) the use of methyl arachydonyl fluorophosphonate (AACOCF<sub>3</sub>) as regulator of the phospholipase A2 pathway. The compound act by

modulating cytosolic PLA<sub>2</sub> activity (page 25, line 26-page 26, line 2). The subject-matter of claims 15 and 16 differs in that the compounds of the present application contain at least 5 non-conjugated double bonds, whereas AACOCF<sub>3</sub> has only 4 non-conjugated double bonds.

Document D2 also discloses (cf. abstract) pharmaceutical compositions comprising trifluoromethyl ketone derivatives of formula RCOCF<sub>3</sub>, where RCO is acyl residue of n-3 series of highly unsaturated fatty acids, in the treatment of inflammatory diseases. The compounds act by inhibiting cytoplasmic phospholipase A2 (cPLA<sub>2</sub>). No mention is made that the compounds should contain at least 5 non-conjugated double bonds.

The subject-matter of claims 15-16 is therefore new (Article 33(2) PCT).

#### Inventive step

The problem to be solved by the present invention may be regarded as treatment of psoriasis by using compounds specific for the inhibition of the enzyme IV<sub>a</sub> PLA<sub>2</sub>.

The solution to this problem proposed in independent claims 1, 14-16 of the present application is considered as involving an inventive step (Article 33(3) PCT) since no cited prior art document discloses the compounds of formula (I) are specific for the IV<sub>a</sub> PLA<sub>2</sub>. Document D3 is concerned with inhibition cytosolic PLA<sub>2</sub> and document D4 with inhibition of secretory PLA<sub>2</sub> and its connection to psoriasis treatment.

No cited prior art document offers a link between psoriasis, IV PLA<sub>2</sub> and the compounds of formula (I) having at least 5 non-conjugated double bonds.

Claims 2-13 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

#### Industrial applicability

The subject matter of claims 1-13, 15-16 is industrially applicable (Art. 33(4) PCT).

#### Clarity

Claim 15 does not fulfill the requirements of Art. 6 PCT. The therapeutic application is functionally defined by a mechanism of action which does not allow any practical application in the form of a defined, real treatment of a pathological condition (disease). Moreover, support and/or disclosure (Art. 5 and 6 PCT) throughout the application can only be found for psoriasis.